

EXPLANATION

BEDDED ROCKS

Qag
Alluvium and glacial material
Includes outwash, meander and terrace gravel deposits as well as recent alluvium

Qs
Silt
Pleistocene (?) Gubik Formation

REGIONAL UNCONFORMITY

Ts
Siltstone and sandstone
Meads and Pliocene (?) meads, exposed only east of Gulating River, includes Meade Formation

UNCONFORMITY (?)

Tc
Conglomerate and sandstone
Pliocene and Eocene younger rocks in the east; Pleistocene younger rocks in the west; includes Meade Formation

BROOKS RANGE SEQUENCE
(Allochthonous with respect to Laramide thrust faults; except south of Gulating River, the remains of mountains may be autochthonous)

NUAK HULSE SEQUENCE
(Allochthonous with respect to Alaskan thrust faults)

DELONG MOUNTAINS-SOUTHERN FOOTHILLS SEQUENCE
(Allochthonous with respect to Alaskan thrust faults)

SOUTHERN FOOTHILLS CONDENSED SEQUENCE
(Allochthonous with respect to Alaskan thrust faults)

NORTHERN FOOTHILLS AND ARCTIC PLAIN SEQUENCE
(Autochthonous)

DISCONFORMITY (?)

Rs
Shale, limestone and chert
Upper Triassic; Seward Formation

Rsh
Shale and chert
Permian and Lower Middle Triassic; includes south of Gulating River, includes Meade Formation

Rps
Sandstone and siltstone
Permian and Lower Triassic; Seward Formation

Ps
Shale
Permian; includes Seward Formation and equivalent

REGIONAL UNCONFORMITY

Pm1
Limestone
Lower and Upper Mississippian in west, upper Mississippian in eastern Brooks Range

Ms
Shale
Middle Lower Mississippian; includes Haystack, unnamed formation south of Gulating River, and upper Mississippian; Haystack(?) shale in northern Brooks Range

Mdc
Conglomerate
Upper Devonian; includes Conglomerate, Devonian and Mississippian; includes Sandstone and upper(?) Devonian of Mississippian; includes Conglomerate

Ds
Siltstone and sandstone
Upper Devonian; includes Gulating River shale and siltstone member of Devonian Formation

UNCONFORMITY (?)

Dls
Limestone and siltstone
Upper Devonian

DI
Limestone
Middle (?) and Upper Devonian; includes Seward Limestone and limestone member of Devonian Formation

Dsg
Quartzite schist
Devonian; includes Devonian Formation

ANGULAR UNCONFORMITY
(Devonian Formation overlies as a result of strike and rotational unconformity)

Dm
Dolomite, limestone, sandstone and shale
Upper Devonian; Hesperian Formation

NUAK HULSE SEQUENCE

RMa
Chert and argillite
Age limits uncertain; exposed only in area of Gulating River; includes Meade Formation

Thrust Fault

DELONG MOUNTAINS-SOUTHERN FOOTHILLS SEQUENCE

RMc
Chert and argillite
Age limits uncertain; exposed only in area of Gulating River; includes Meade Formation

Thrust Fault

SOUTHERN FOOTHILLS CONDENSED SEQUENCE

RMd
Limestone
Mississippian; includes Devonian, Permian, and Triassic; includes Meade Formation

Thrust Fault

NORTHERN FOOTHILLS AND ARCTIC PLAIN SEQUENCE

RMj
Shale
Permian and Lower Triassic; includes Meade Formation

Thrust Fault

IGNEOUS ROCKS

g
Granite
Exposed only in eastern Brooks Range; Mount Natelson pluton may be Devonian, or possibly Cambrian

m
Mafic and ultramafic rocks
Mainly gabbro and basalt; some diorite, gneiss and amphibolite; locally pegmatite; Devonian rocks limited to large body along Gulating River; about 100-150' thick; also in Delong Mountains and Southern Foothills; allochthonous sequence and in easternmost area of Brooks Range; includes upper and middle (?) Devonian; includes Meade Formation; also (?) Devonian (?) or Jurassic (?) elsewhere

GEOLOGIC SYMBOLS

Contact
Dotted where concealed

Boundary
Limit of mapped area or approximate contact in poorly known area

Fault
Showing sense of movement
If left-hand side is down, downthrown side, dashed where inferred, solid where concealed

Thrust fault
See fault on upper plate, dashed where inferred, solid where concealed

Major thrust fault
See fault on upper plate, dashed where inferred, solid where concealed

Anticline
Showing crest and direction of plunge; dashed where probable; solid where concealed

Syncline
Showing trough and direction of plunge; dashed where probable; solid where concealed

Minor anticline, showing plunge

Core test location

Test well location
Number refers to hole of well

Oil well

Gas well

Oil field

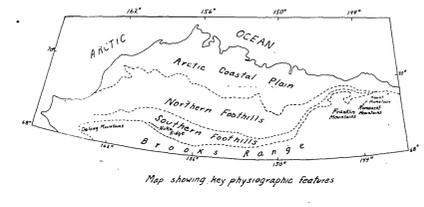
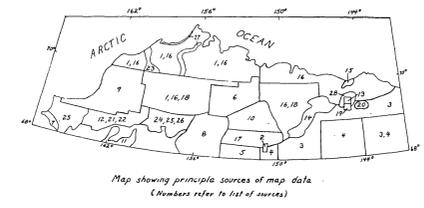


Table of wells, showing subsurface stratigraphy (autochthonous)

Unit Penetrated	Number, Name, and Total Depth of Well		Equivalent Outcrop Unit	
	Well No.	Depth (ft.)	Unit	Depth (ft.)
Qs	3153	200	Qs	200
Kss	3154	200	Kss	200
Ksc	3155	200	Ksc	200
Ms	3156	200	Ms	200
Md	3157	200	Md	200
Ds	3158	200	Ds	200
DI	3159	200	DI	200
Dsg	3160	200	Dsg	200
Dm	3161	200	Dm	200
g	3162	200	g	200
m	3163	200	m	200

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PRELIMINARY GEOLOGIC MAP OF NORTHERN ALASKA

Compiled by
Ernest H. Lathram

1965

This map is preliminary and has not been edited or reviewed for conformity with U.S. Geological Survey standards